

PROCEEDINGS
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DESCRIPTION OF A NEW GENUS AND SPECIES OF
MURINE RODENT (*XENOMYS NELSONI*)
FROM THE STATE OF COLIMA,
WESTERN MEXICO.

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Among the many interesting mammals recently collected by Mr. E. W. Nelson in western Mexico is a handsome rat-like rodent which seems to be not only an undescribed species, but the type of a new genus. In form and general external appearance it looks like a rather small wood rat of the genus *Neotoma*, but differs from the members of that genus, and in fact from all other known North American murines, in having a large and clearly defined whitish spot over each eye and another (though less conspicuous) below each ear. The upper lips and cheeks also are white more than half way to the eyes, giving the animal a very pretty as well as unusual physiognomy. The color of the back and upper parts generally is deep tawny red or fulvous, while the under parts are creamy white. The skull and teeth present a combination of characters so unlike those of any known rodent that a new genus must be framed for its reception. While resembling *Neotoma* more closely than any other genus, it differs from it in many important characters. With a skull much like that of *Neotoma mexicana*, it has well developed supraorbital

beads like *Nyctomys*, large lachrymals, a large interparietal, and large and greatly inflated audital bullæ, which differ from those of any murine with which I am acquainted and resemble those of some of the carnivores. In dentition it combines the 3-rooted upper molars of the true murines with the non-tubercular prismatic grinding crowns of the arvicolines, and has the broadly rounded alternating closed triangles of *Phenacomys*, only even more crowded.

The new genus may be characterized as follows :

Xenomys* gen. nov.

Skull resembling that of *Neotoma* in general form and appearance, but differing in possessing marked elevated and laterally projecting supraorbital beads, much larger and heavier lachrymals, greatly enlarged and inflated audital bullæ, which are elongated antero-posteriorly and parallel to the axis of the skull and to each other, instead of being set obliquely as in *Neotoma* (in which genus they would meet in the middle of the pterygoid fossa if produced forward along their strongly convergent axes). The anterior border of the squamosal above the zygomatic process is marked by a projecting vertical ridge corresponding to the postorbital process of *Cuniculus*, *Myodes*, and *Phenacomys*, and serving to indicate the separation of the (small) temporal from the (large) orbital fossa. Posteriorly the squamosal does not reach the occiput as it does in *Neotoma*, but ends about half-way between the posterior root of the zygoma and the occiput. Its posterior spicule reaches the mastoid. The paroccipital processes are long and stout. The interparietal is very large and somewhat diamond-shaped. The condyloid process of the mandible is long and slender and higher than the coronoid process.

Dental Characters.—Molars truly rooted ; the roots closed at the tips ; upper molars 3-rooted ; lower molars 2-rooted. First upper molar with anterior and posterior roots subcylindric and a broad flat root in the middle on the inner side, the latter slightly notched at the tip and having the appearance of two roots grown together. Between the middle and posterior root in the specimen examined is a small needle-like auxiliary or supplemental root about half the length of the others ; middle upper molar with 2 anterior and 1 posterior roots, the anterior on the inner side about double the size of the others ; last upper molar with

* *Xenomys*: from ξένος, strange, and μῦς, mouse.

2 anterior and 1 posterior roots; molar series large and heavy, much broader than in *Neotoma* or *Arvicola*; crowns flat, prismatic, non-tubercular, with broadly rounded and crowded alternating closed triangles as in *Phenacomys* and *Arvicola* (only much more crowded) and bearing no resemblance to the narrow transversely elongated loops of *Neotoma*; crown of last lower molar deeply incised on the inner face a little anterior to the middle by a narrow trenchant reëntrant angle which carries a fold of enamel obliquely forward and outward across the tooth. On the outer side a short reëntrant angle pushes a loop of enamel obliquely forward and inward toward the middle of the long fold from the opposite side, leaving an anterior loop, a posterior loop, and a small closed or nearly closed triangle on the outside about the middle of the tooth. The resulting pattern is shaped like the letter **S**, with a small closed triangle on the outer side of the convexity, thus differing widely both from the 3 transverse loops of *Arvicola* and *Phenacomys* and from the 2 transverse loops or figure-8 pattern of *Neotoma*; upper incisors plane or with a faint bead on each side of the anterior face, which is nearly flat and yellow; lower incisors plane, convex in front, pointed.

In describing genera from single species it is not always possible to distinguish clearly between generic and specific characters, unless indeed the genus is based on a single character. In the event of the discovery of additional species of the present genus it may be found that some of the characters here ranked as generic are only specific or, on the other hand, that some here considered specific are really generic.

The species may be known from the following description:

Xenomys nelsoni* sp. nov.

Type No. $\frac{33281}{43286}$ ♂ ad. U. S. National Museum (Department of Agriculture collection). From Hacienda Magdalena, Colima, Mexico, March 21, 1892. Collected by E. W. Nelson. (Original number, 2288.)

Measurements (in millimeters, taken in flesh by collector).—Total length, 300; tail vertebrae, 143; hairs, 6; hind foot, 30; ear (in dry skin) from crown, 18; from anterior root, 22.

General Characters.—Size about that of a half or two-thirds grown rat, or nearly equaling *Neotoma mexicana*; tail a little shorter than head and body, well haired, particularly above; face ornamented by a distinct whitish spot over each eye and a

* Named in honor of its collector, Mr. E. W. Nelson.

less distinct one under each ear; color of upper parts rich fulvous; under parts white; ears about half as long as the head and nearly naked (sparsely clothed with fine, inconspicuous hairs); whiskers reaching back to shoulders; fur soft.

Color.—Upper parts fulvous or tawny-rufous, palest on the head and brightest over the rump, flanks, and hips; back sparsely mixed with black-tipped hairs; an ill-defined dusky ring around each eye, above which is a whitish spot about as large as the eye itself; a less distinct whitish spot just below the inferior root of the ear; upper lips white, the white color extending up on the cheeks more than half way to the eyes; sides of face below eyes and ears washed with fulvous, whiskers blackish; tail concolor, dark umber-brown all round; upper surfaces of feet whitish, more or less clouded with dusky (varying considerably in the three specimens); under parts creamy white to the very roots of the hairs except along the sides of the belly, where the basal part of the fur is plumbeous; line of demarkation between colors of upper and lower parts everywhere sharp and distinct.

An immature but full-grown specimen from Armeria, Colima (collected March 2, 1892), has a small whitish lanuginous tuft in front of the anterior base of each ear, in addition to the markings of the specimens from Hacienda Magdalena, already described. This may be characteristic of the winter pelage. The same specimen has white feet, and the white of the face is more extensive.

Cranial Characters.—The principal cranial peculiarities have been pointed out in the generic description. The great size of the audital bullæ is doubtless a specific character, though not the direction of their axes. The bullæ are broader anteriorly than posteriorly, and curve slightly outward in front of the meatus, where the inflated portion is much more extensive than that behind it. The large size of the interparietal also is in all probability a specific feature. In one of the three skulls its antero-posterior diameter along the median line equals that of the parietals. The ascending branches of the premaxillaries reach as far back as the nasals, which end on a line with the lachrymals.

Dental Characters.—(The generic characters already mentioned are not repeated here.) First upper molar with crown more than half as broad as long; outer side straight; inner side

strongly convex, with one anterior and one posterior closed loop, and one external and two internal lateral closed triangles. Middle and last upper molars each with one anterior and one posterior closed loop, and one lateral closed triangle on each side (sometimes the lateral triangles are not quite closed in the last tooth). The anterior loops of the second and third upper molars are strongly pyriform, as in *Phenacomys*.

First lower molar with anterior half bent strongly outward, the anterior loop looking outward instead of forward. This tooth has an anterior loop, a posterior loop, an external lateral closed triangle, and two internal lateral triangles, the posterior of which is closed. Second lower molar with one anterior and one posterior closed transverse loop, and one lateral closed triangle on each side; last lower molar with an anterior oblique closed loop, a posterior oblique closed loop, and a lateral closed (or nearly closed) triangle on the outer side. (This tooth is described more in detail in the generic diagnosis.)

Haunts and Habits.—Almost nothing is known of the life history of this interesting and heretofore unknown animal. Respecting the specimens from Hacienda Magdalena Mr. Nelson writes: “Not common. The two specimens obtained were caught, in hollow trees.” Another “was taken in the low dense woods near the mouth of the Armeria River. They live in hollow trees.”

Measurements (taken in flesh) of Xenomys nelsoni.

U. S. National Museum No.		Original No.	Locality.	Date.	Sex.	Total length.	Tail vertebræ.	Hind foot.
Skin.	Skull.							
33280	45285	1972	Armeria, Colima, Mexico.	Mar. 2, '92	♂	315	155	31
33281	45286	2288	Hacienda Magdalena, Colima, Mexico.	Mar. 21, '92	♂	300	143	30*
33282	45287	2318	Hacienda Magdalena, Colima, Mexico.	Mar. 23, '92	♂	335	170	32

*Type.